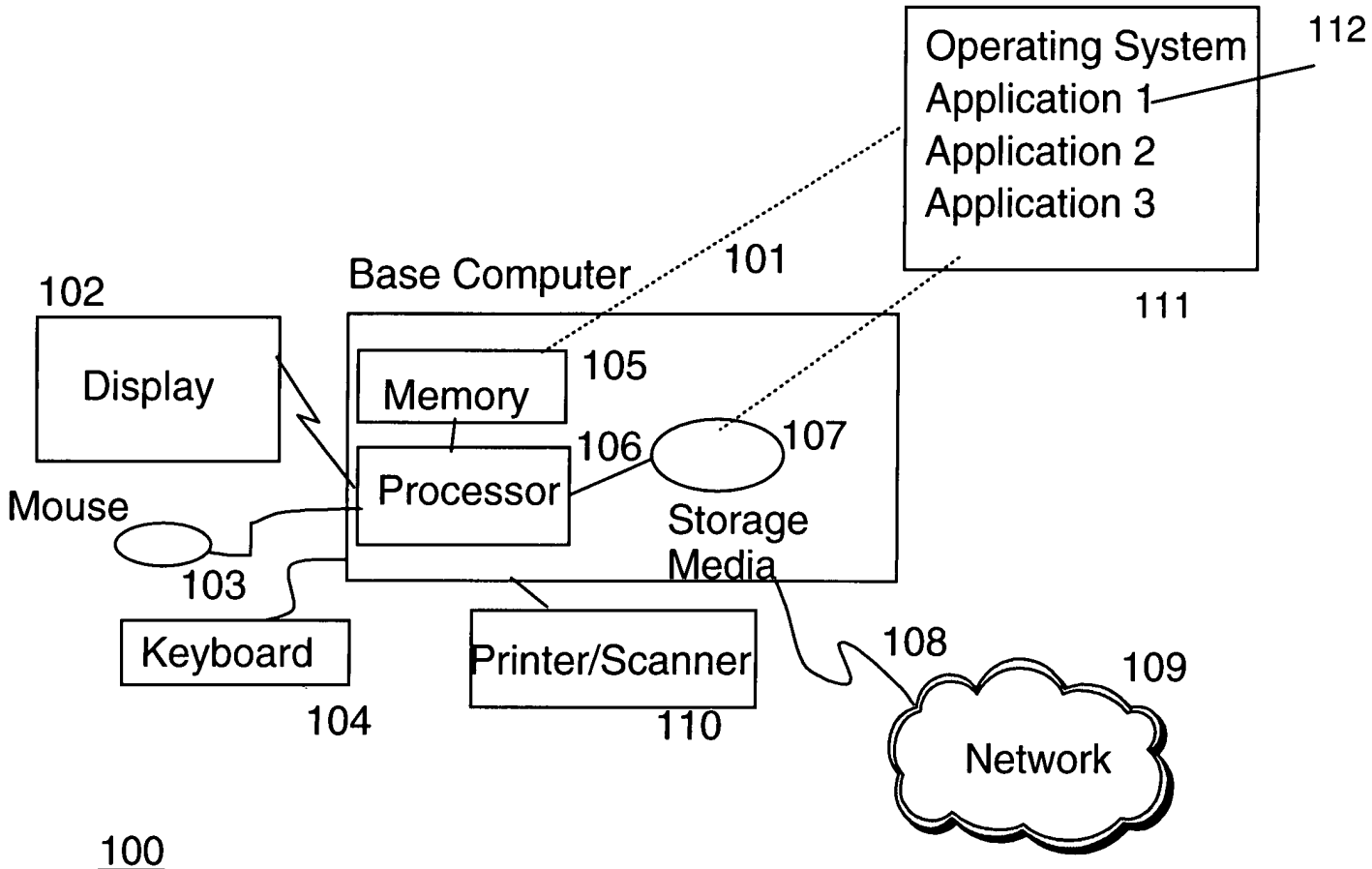

Operating System
Application 1
Application 2
Application 3
112
111
Base Computer
101
102
Display
Memory
105
106
107
Processor
Storage
Media
Mouse
103
Keyboard
104
Printer/Scanner
110
108
109
Network
100

FIG. 1

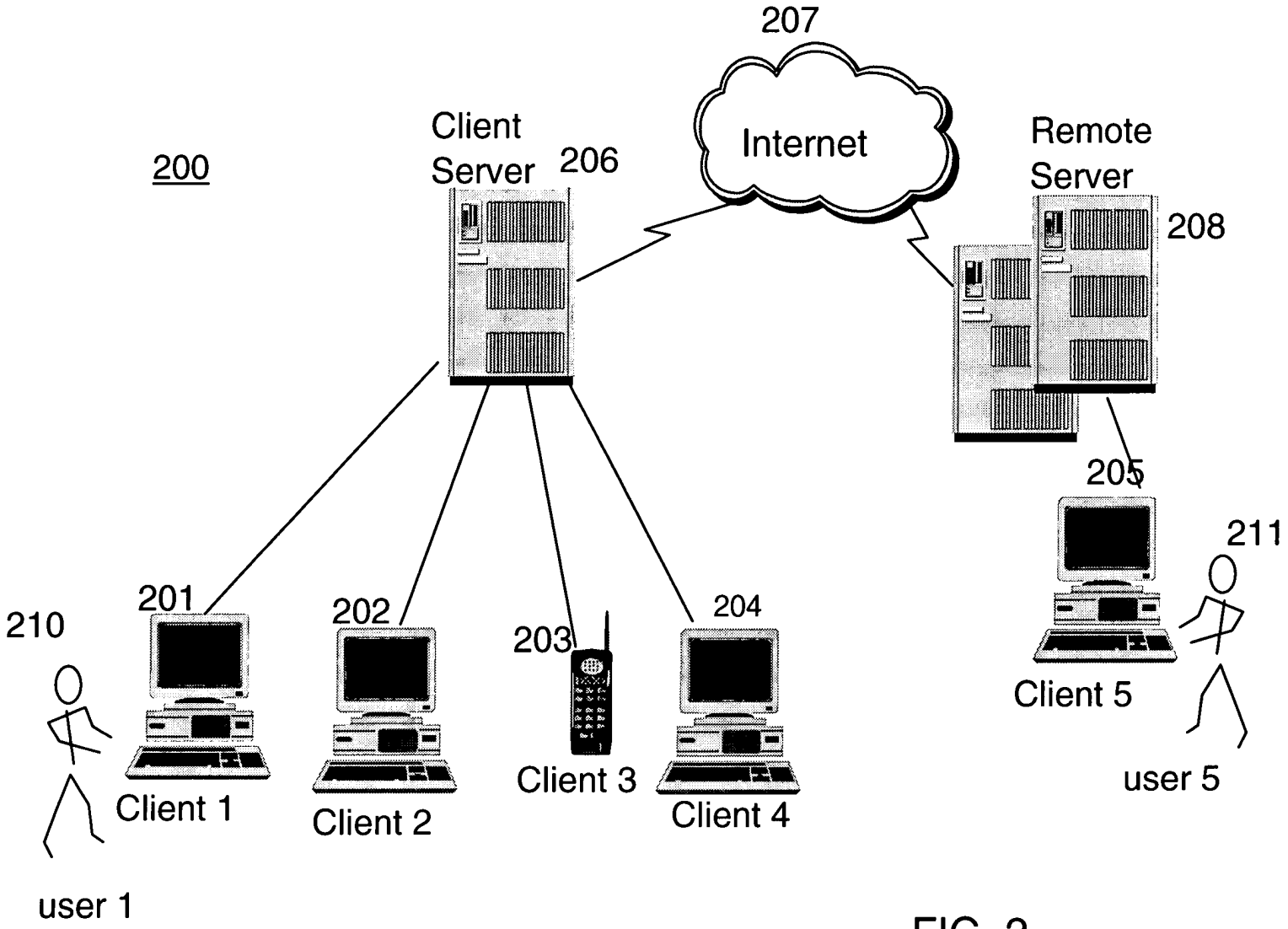

207
Internet
200
Client
Server
206
Remote
Server
208
205
211
210
201
202
203
204
Client 5
Client 1
Client 2
Client 3
Client 4
user 5
user 1

FIG. 2

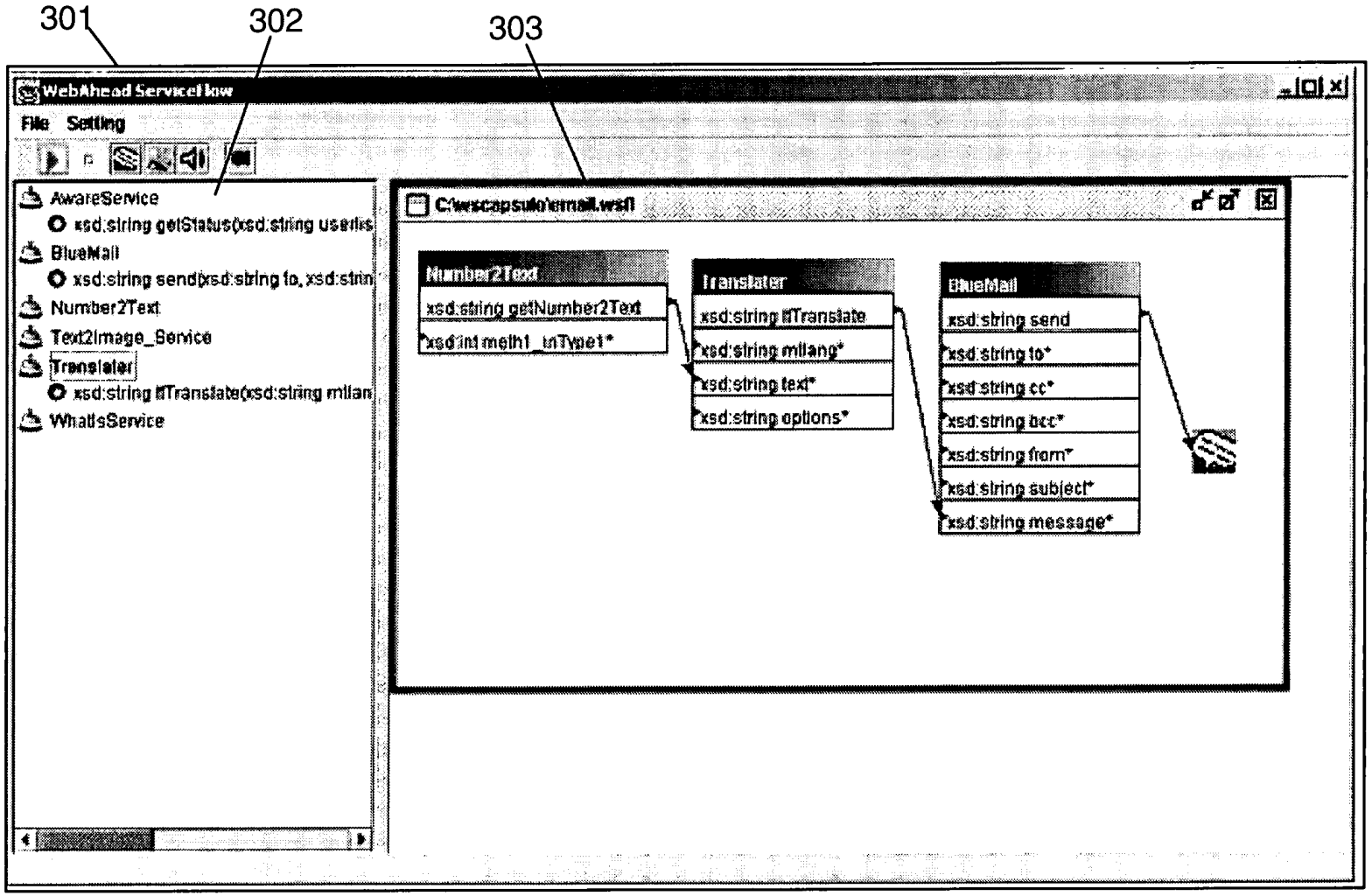

301
302
303
WebAhead ServiceFlow
File Setting
AwareService
xsd:string getStatus(xsd:string userIds
BlueMail
xsd:string send(xsd:string to, xsd:strin
Number2Text
Text2Image_Service
Translater
xsd:string tTranslate(xsd:string milan
WhatIsService
C:\wscapsule\email.wsfl
Number2Text
xsd:string getNumber2Text
xsd:int meth1_inType1*
Translater
xsd:string tTranslate
xsd:string milang*
xsd:string text*
xsd:string options*
BlueMail
xsd:string send
xsd:string to*
xsd:string cc*
xsd:string bcc*
xsd:string from*
xsd:string subject*
xsd:string message*

FIG. 3

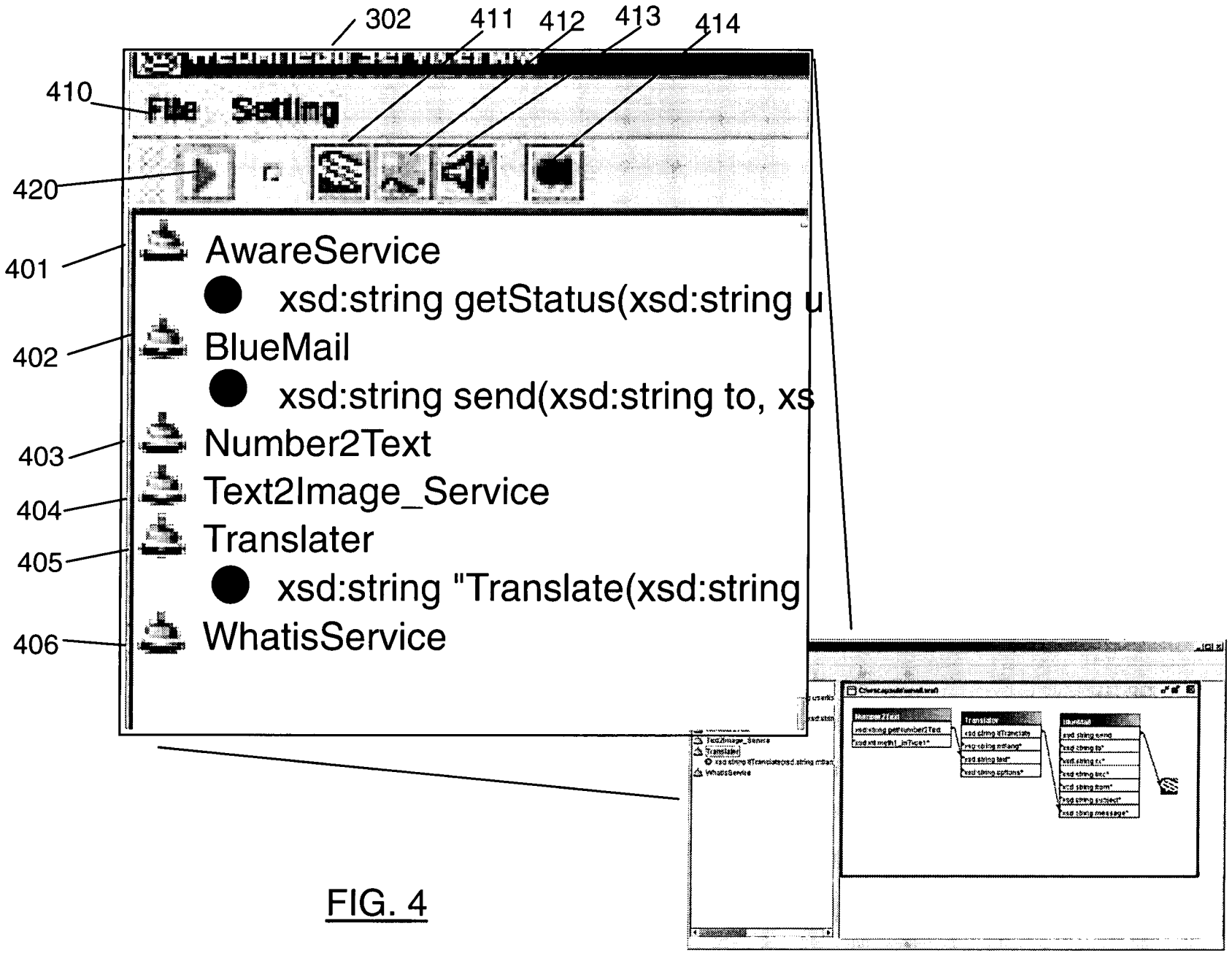

302
411
412
413
414
410
File
Setting
420
401
AwareService
xsd:string getStatus(xsd:string u
402
BlueMail
xsd:string send(xsd:string to, xs
403
Number2Text
404
Text2Image_Service
405
Translater
xsd:string "Translate(xsd:string
406
WhatisService

FIG. 4

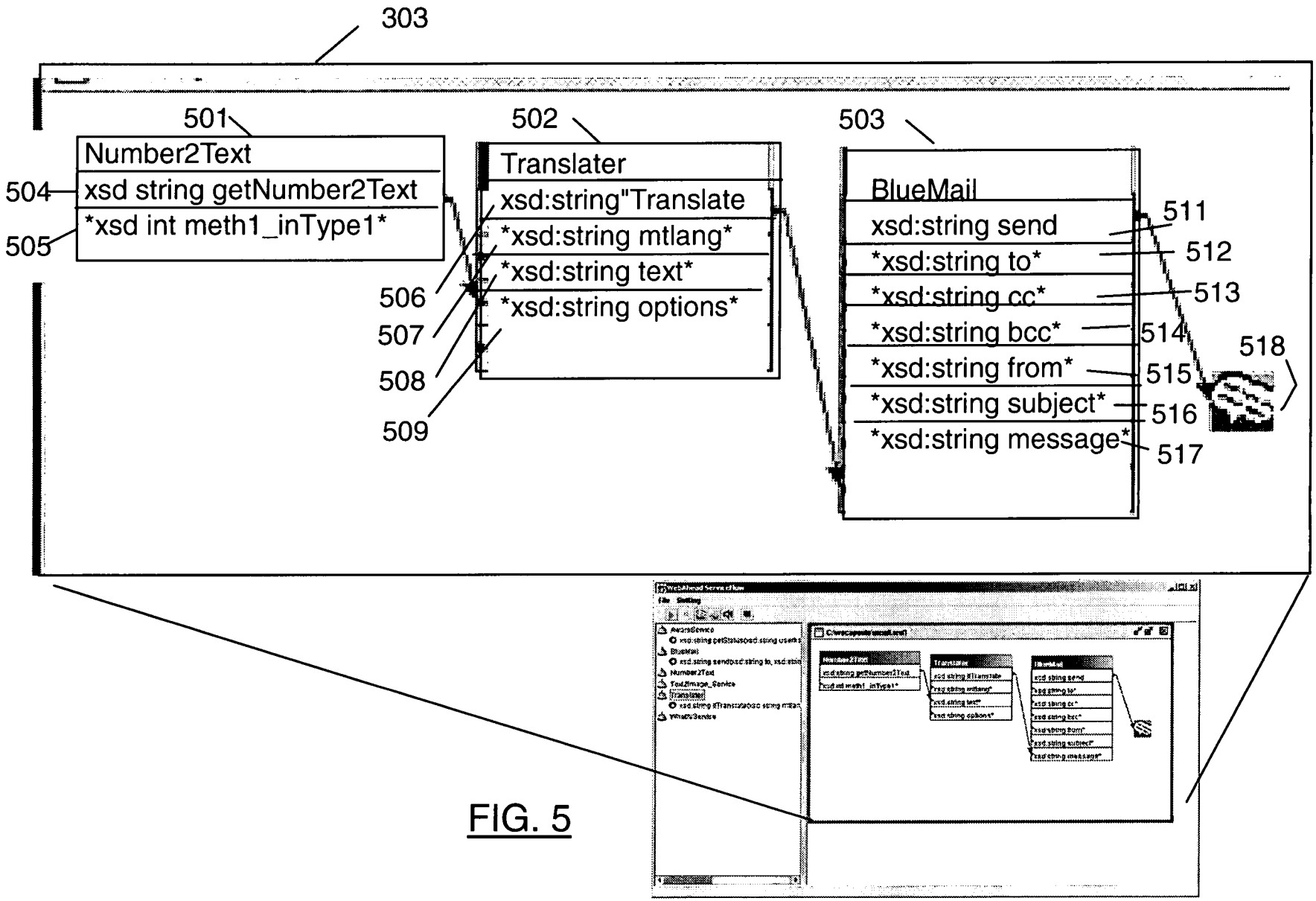

303
501
Number2Text
504
xsd string getNumber2Text
505
xsd int meth1_inType1
502
Translater
xsd:string"Translate
xsd:string mtlang
xsd:string text
xsd:string options
506
507
508
509
503
BlueMail
xsd:string send
xsd:string to
xsd:string cc
xsd:string bcc
xsd:string from
xsd:string subject
xsd:string message
511
512
513
514
515
516
517
518

FIG. 5

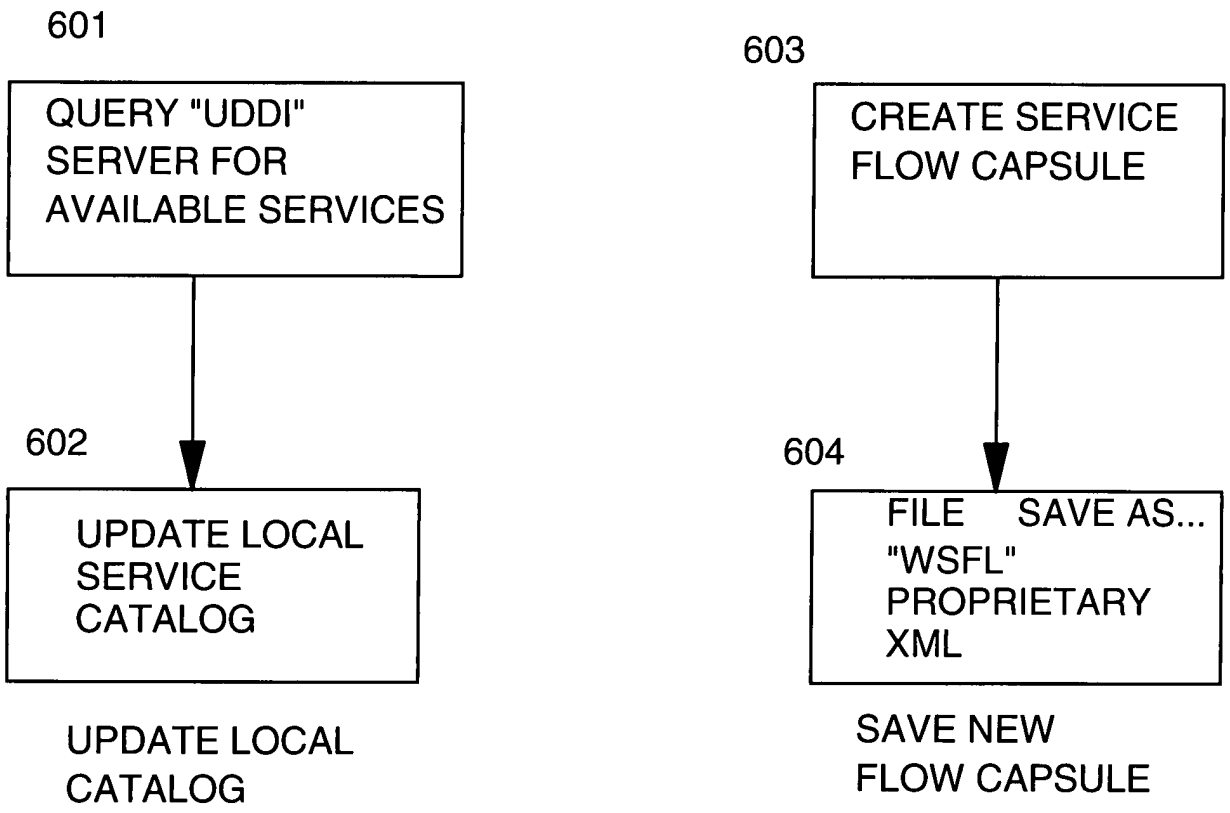

601
QUERY "UDDI" SERVER FOR AVAILABLE SERVICES
602
UPDATE LOCAL SERVICE CATALOG
UPDATE LOCAL CATALOG
603
CREATE SERVICE FLOW CAPSULE
604
FILE SAVE AS... "WSFL" PROPRIETARY XML
SAVE NEW FLOW CAPSULE

FIG. 6

CREATE SERVICE FLOW CAPSULE (EXAMPLE)

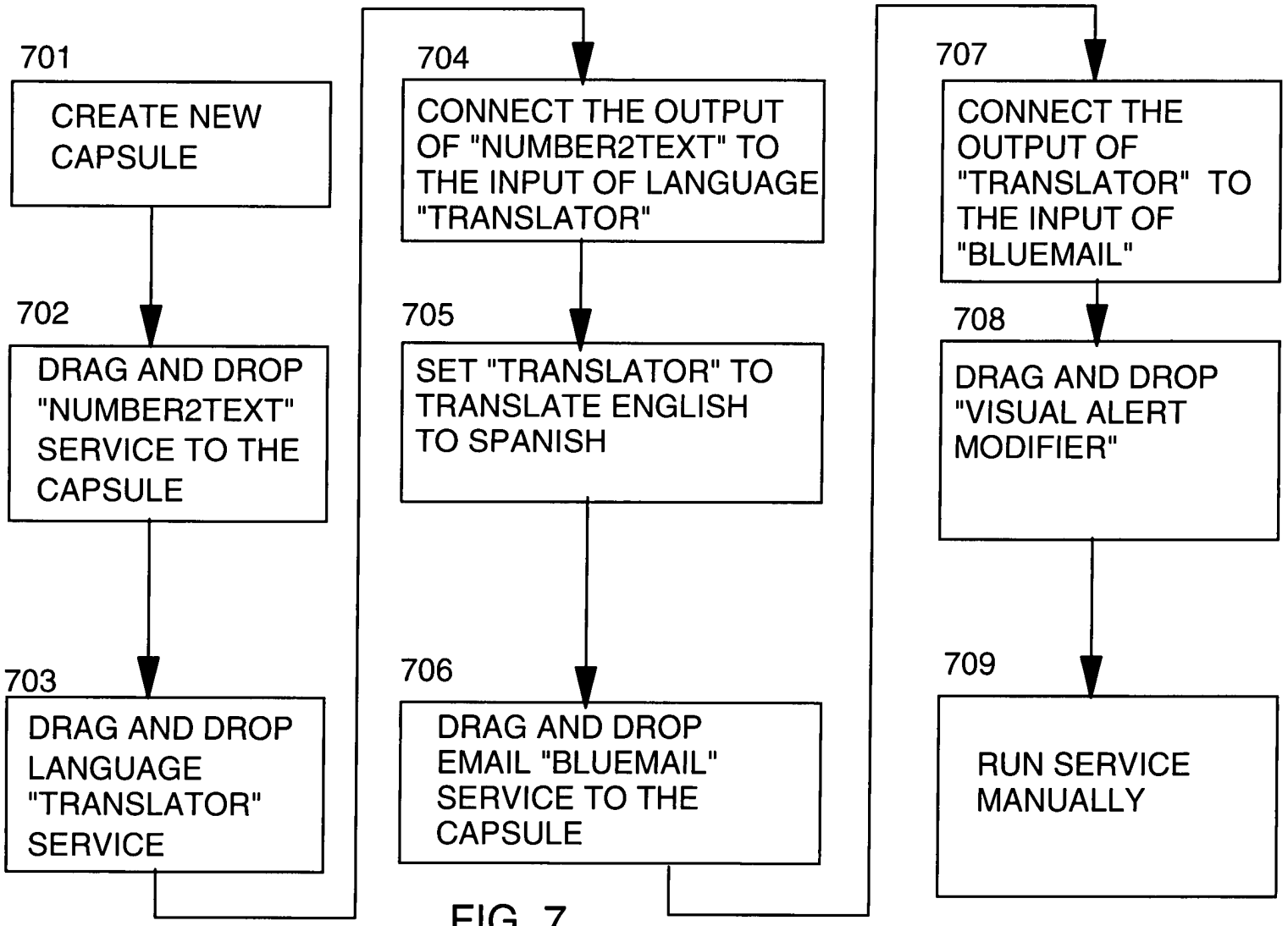

701
CREATE NEW CAPSULE
702
DRAG AND DROP "NUMBER2TEXT" SERVICE TO THE CAPSULE
703
DRAG AND DROP LANGUAGE "TRANSLATOR" SERVICE
704
CONNECT THE OUTPUT OF "NUMBER2TEXT" TO THE INPUT OF LANGUAGE "TRANSLATOR"
705
SET "TRANSLATOR" TO TRANSLATE ENGLISH TO SPANISH
706
DRAG AND DROP EMAIL "BLUEMAIL" SERVICE TO THE CAPSULE
707
CONNECT THE OUTPUT OF "TRANSLATOR" TO THE INPUT OF "BLUEMAIL"
708
DRAG AND DROP "VISUAL ALERT MODIFIER"
709
RUN SERVICE MANUALLY

FIG. 7

EXECUTING SERVICE FLOW

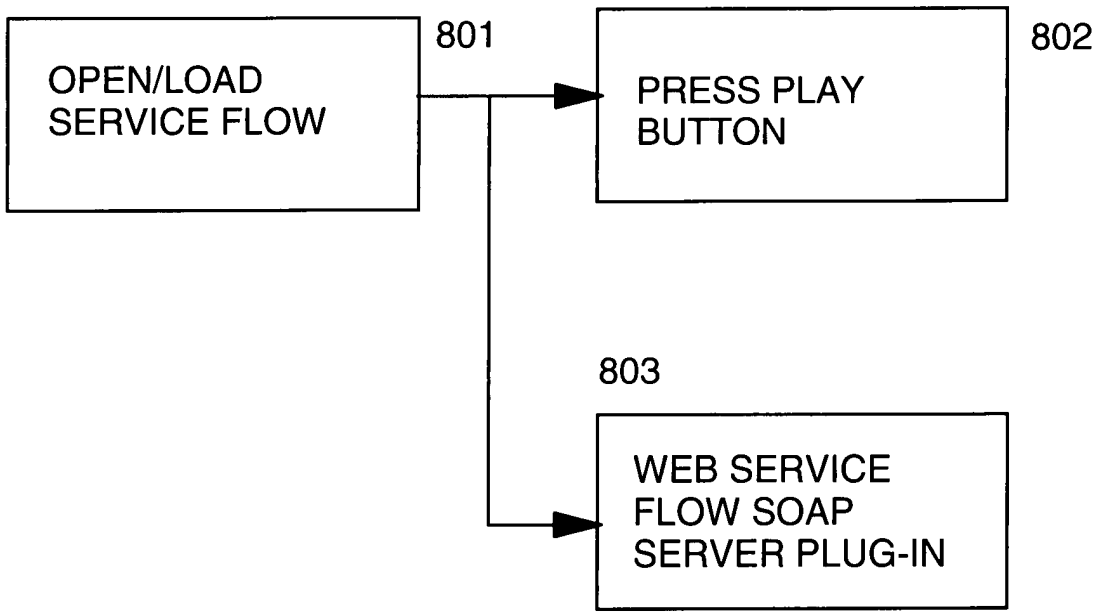


FIG. 8

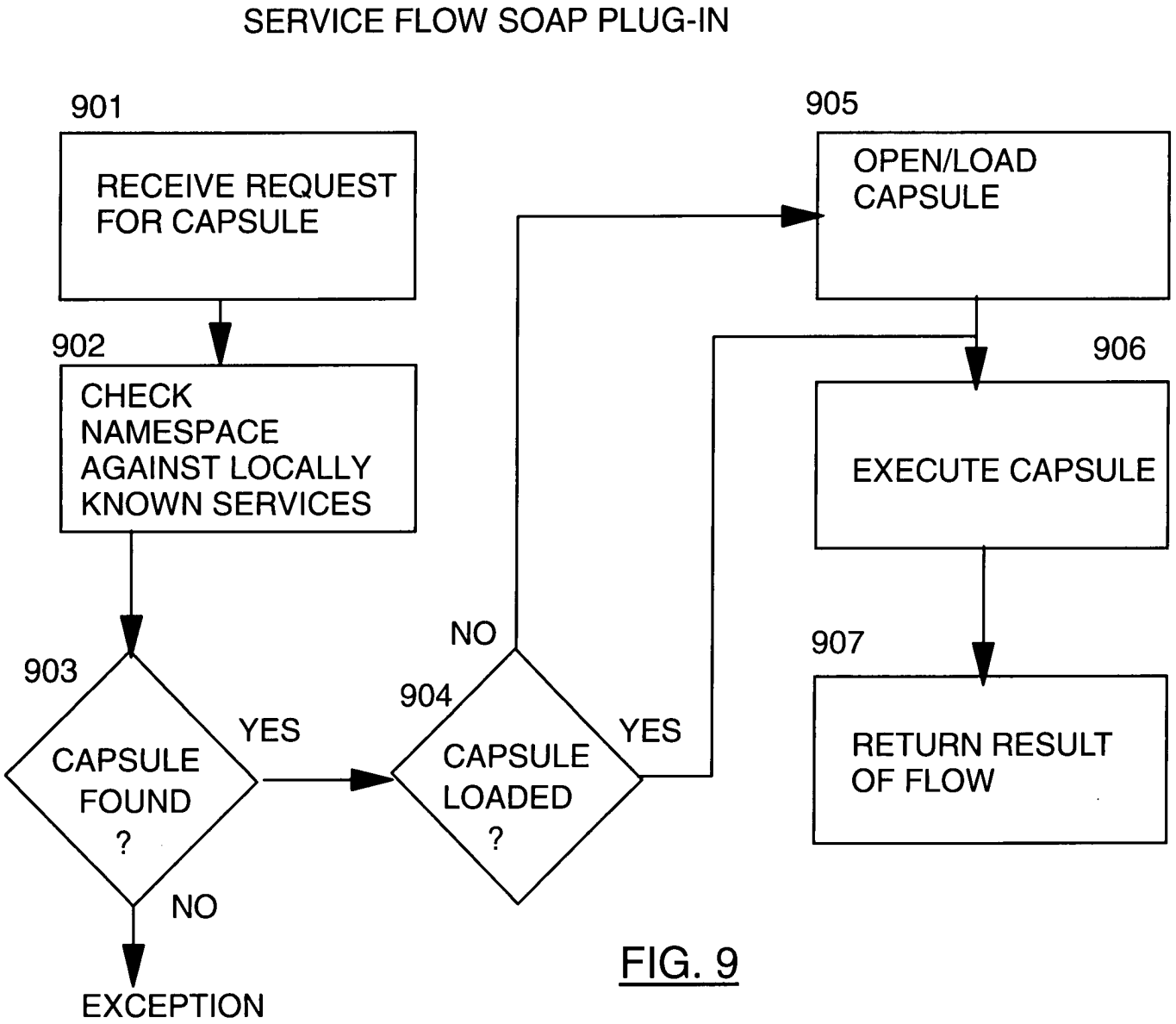

SERVICE FLOW SOAP PLUG-IN
901
RECEIVE REQUEST FOR CAPSULE
902
CHECK NAMESPACE AGAINST LOCALLY KNOWN SERVICES
903
CAPSULE FOUND ?
YES
NO
EXCEPTION
904
CAPSULE LOADED ?
YES
NO
905
OPEN/LOAD CAPSULE
906
EXECUTE CAPSULE
907
RETURN RESULT OF FLOW

FIG. 9

WSDL GENERATION OF SERVICE FLOW

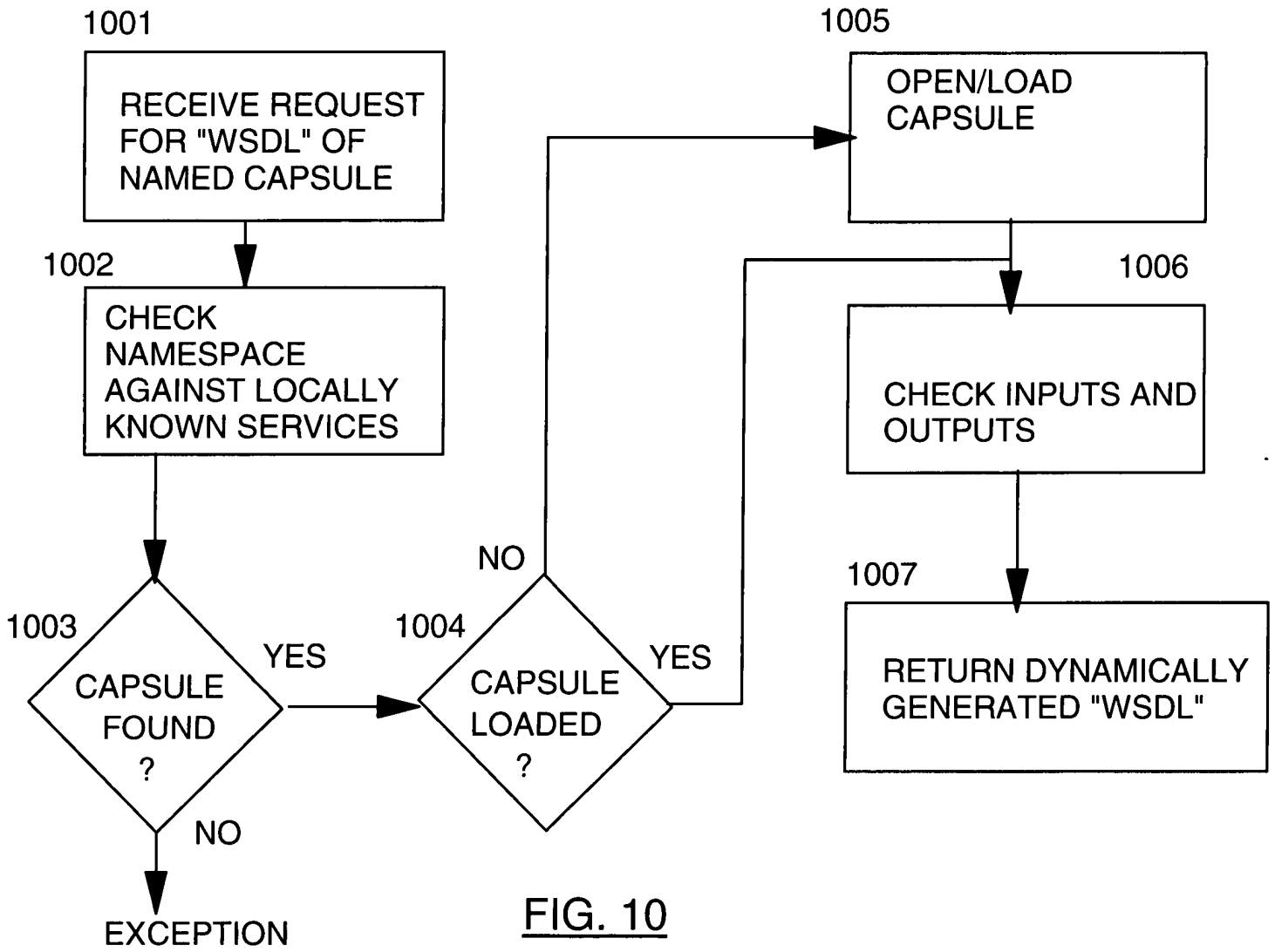


FIG. 10

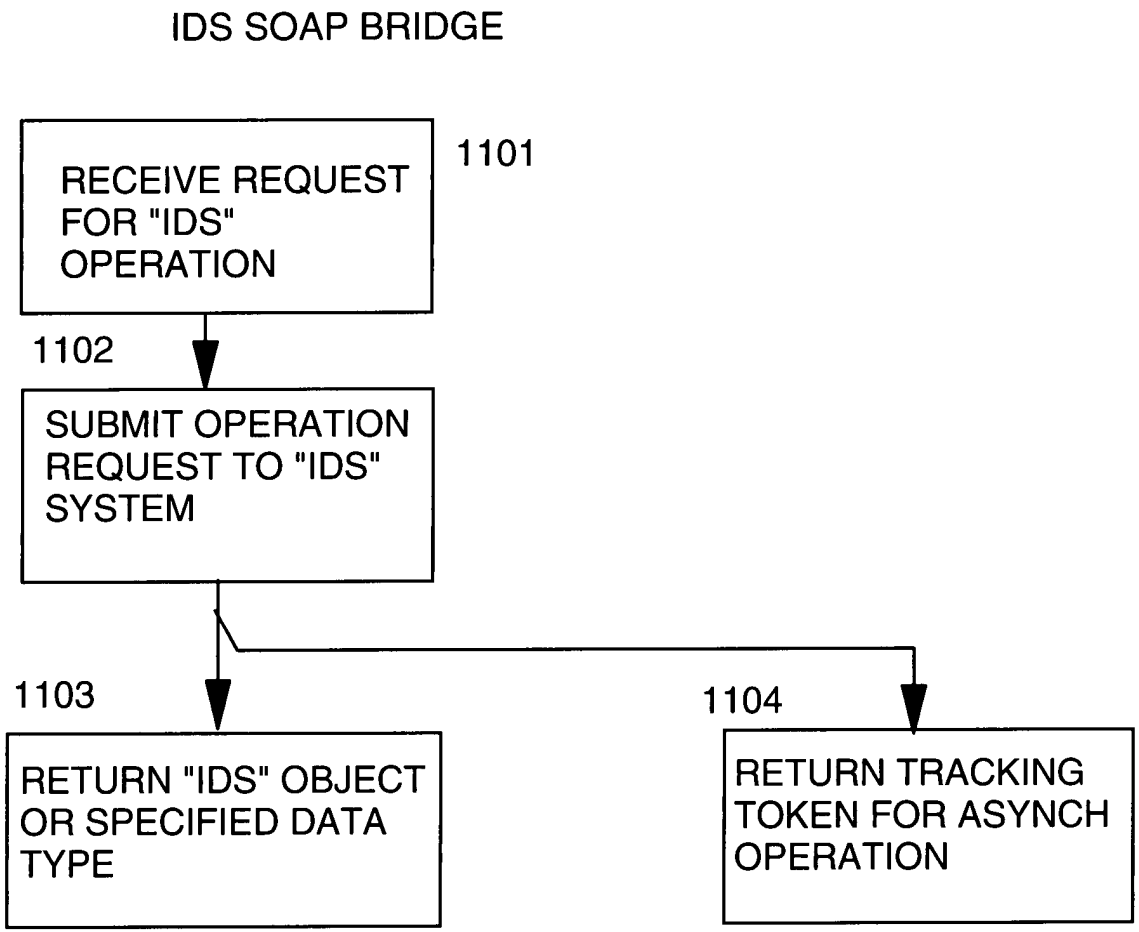

IDS SOAP BRIDGE
RECEIVE REQUEST FOR "IDS" OPERATION
1101
1102
SUBMIT OPERATION REQUEST TO "IDS" SYSTEM
1103
RETURN "IDS" OBJECT OR SPECIFIED DATA TYPE
1104
RETURN TRACKING TOKEN FOR ASYNCH OPERATION

FIG. 11

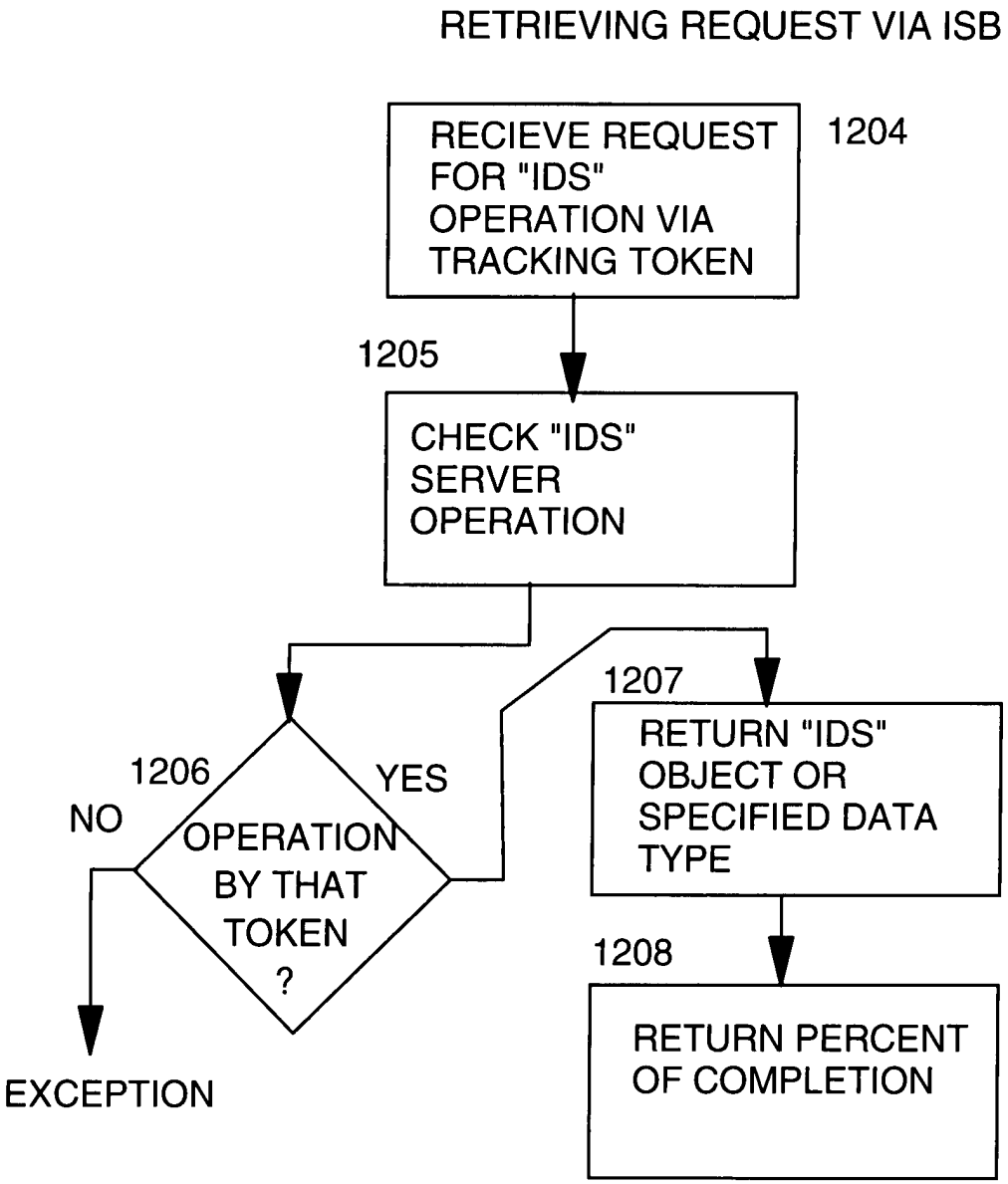

RETRIEVING REQUEST VIA ISB
RECIEVE REQUEST FOR "IDS" OPERATION VIA TRACKING TOKEN
1204
1205
CHECK "IDS" SERVER OPERATION
1207
RETURN "IDS" OBJECT OR SPECIFIED DATA TYPE
1206
YES
NO
OPERATION BY THAT TOKEN ?
1208
RETURN PERCENT OF COMPLETION
EXCEPTION

FIG. 12

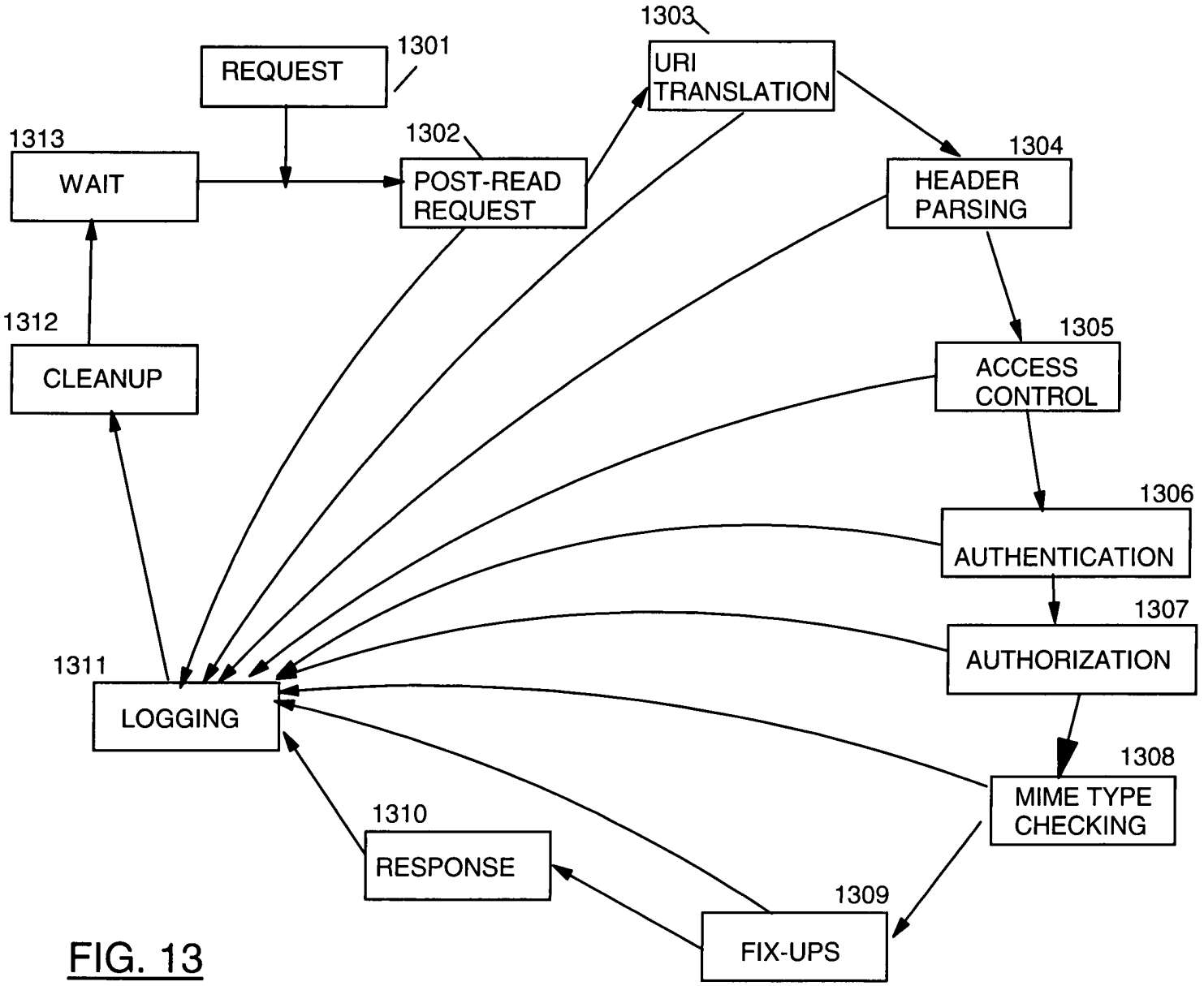

1303
1301
REQUEST
URI TRANSLATION
1313
1302
WAIT
POST-READ REQUEST
1304
HEADER PARSING
1312
1305
CLEANUP
ACCESS CONTROL
1306
AUTHENTICATION
1307
1311
AUTHORIZATION
LOGGING
1308
MIME TYPE CHECKING
1310
RESPONSE
1309
FIX-UPS

FIG. 13

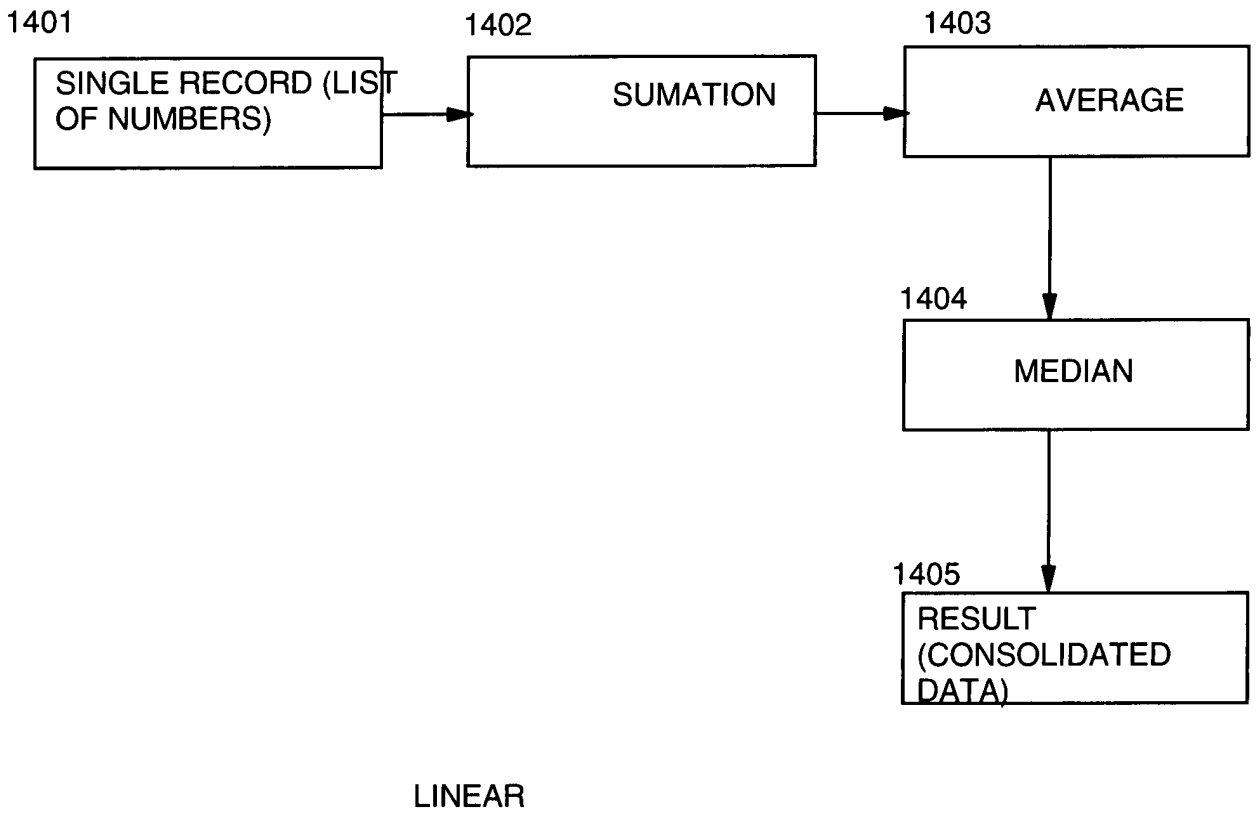
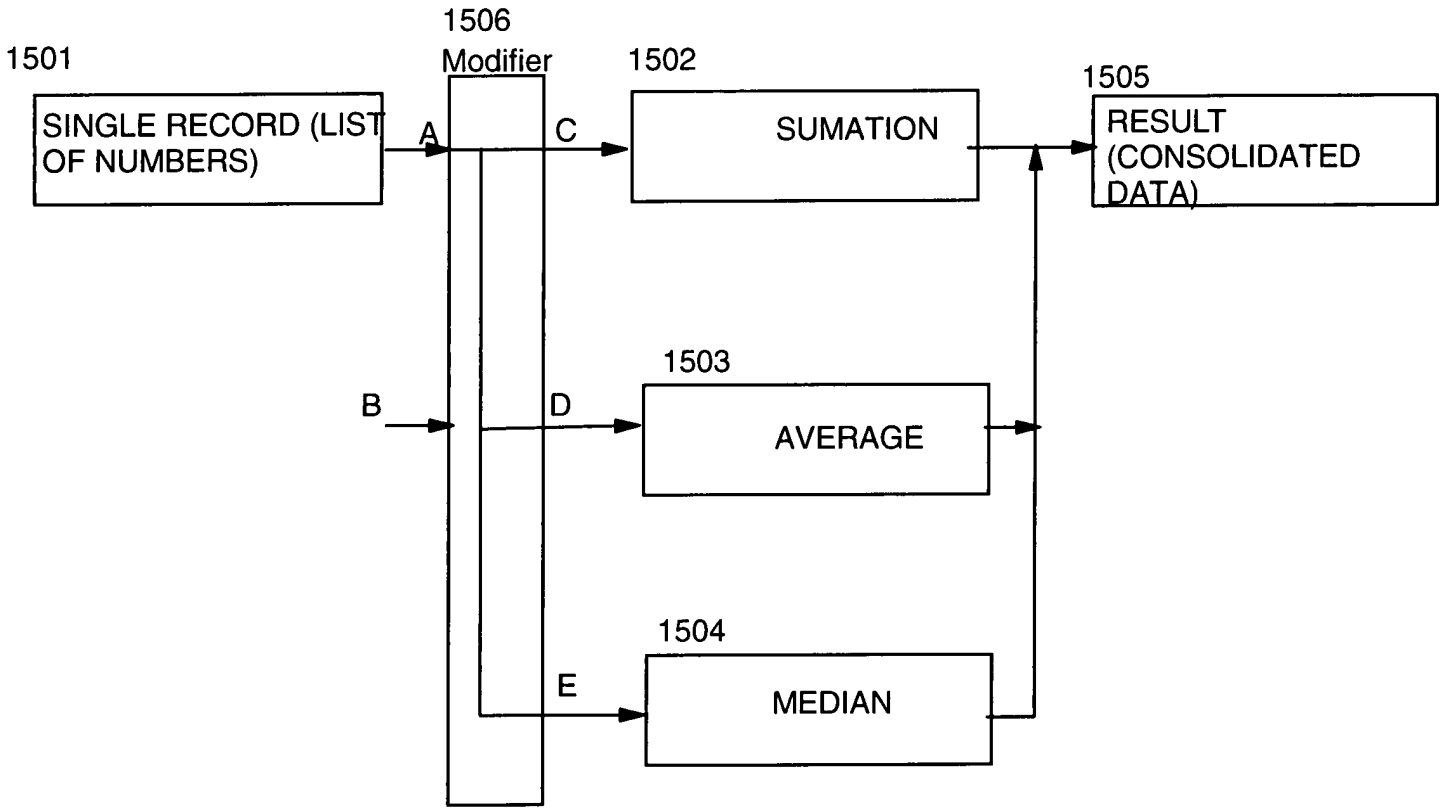
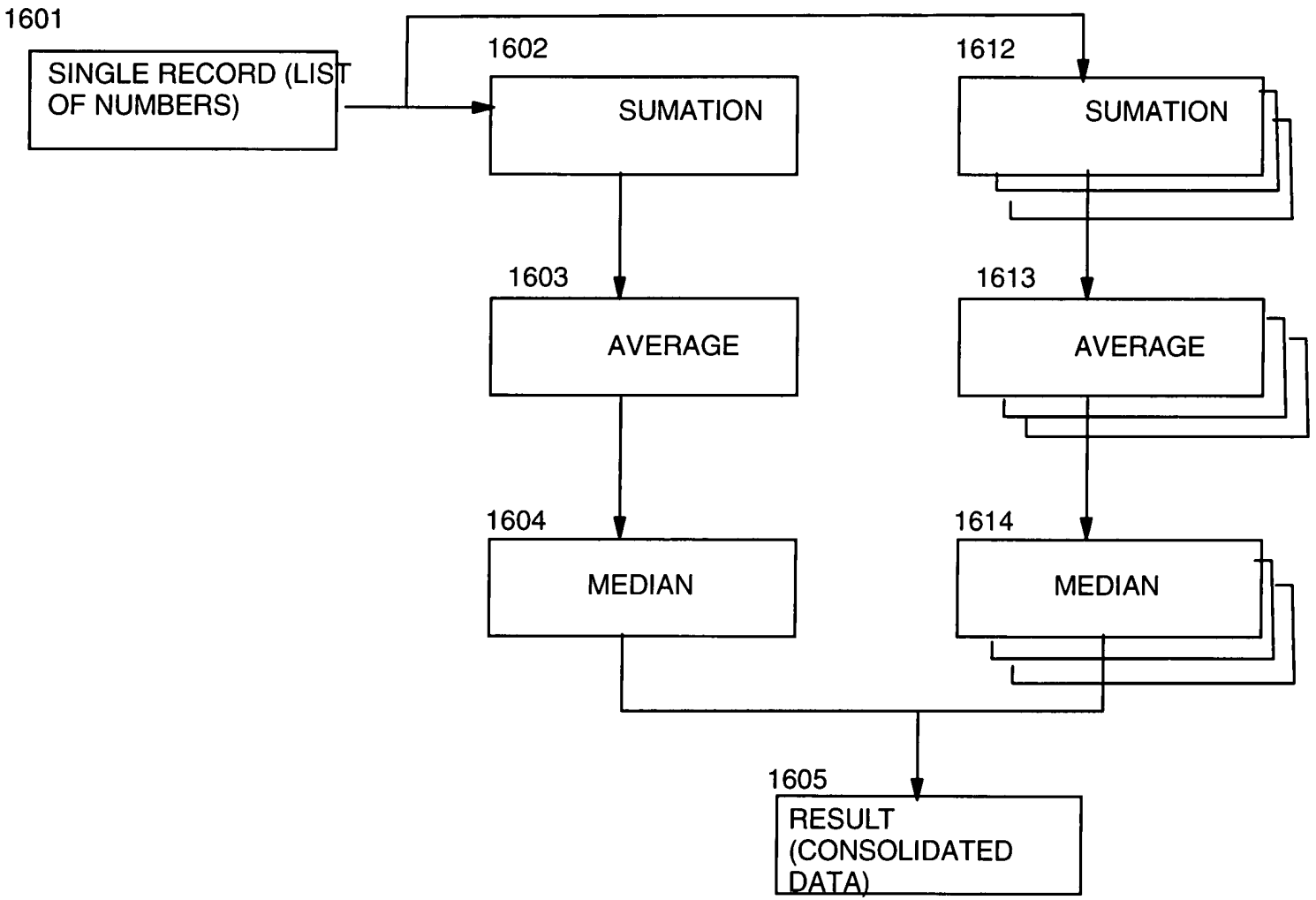

1401
SINGLE RECORD (LIST OF NUMBERS)
1402
SUMATION
1403
AVERAGE
1404
MEDIAN
1405
RESULT (CONSOLIDATED DATA)
LINEAR

FIG. 14



PARALLEL EXECUTION SINGLE RECORD (EACH SERVICE ON DIFFERENT COMPUTERS)

FIG. 15



PARALLEL EXECUTION MULTIPLE RECORDS (EACH SERVICE ON DIFFERENT COMPUTERS)

FIG. 16

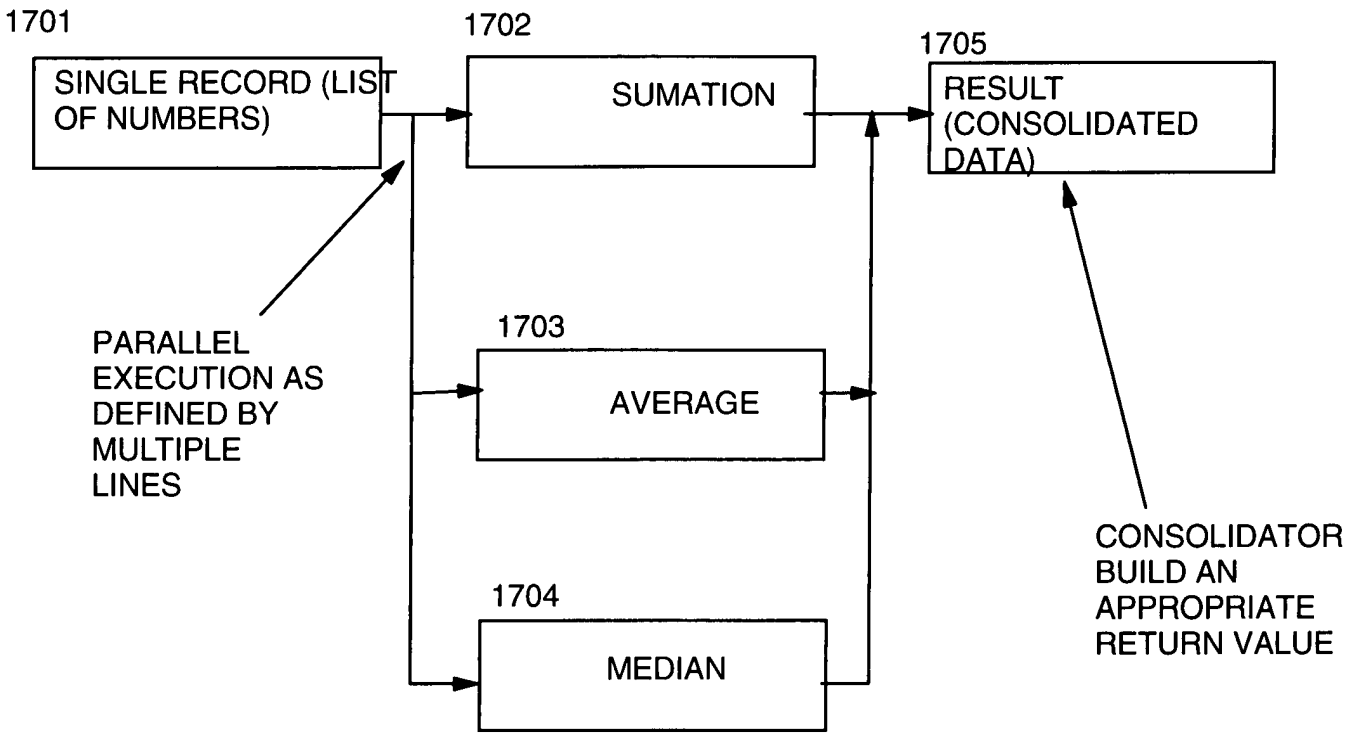

1701
SINGLE RECORD (LIST OF NUMBERS)
1702
SUMATION
1705
RESULT (CONSOLIDATED DATA)
PARALLEL EXECUTION AS DEFINED BY MULTIPLE LINES
1703
AVERAGE
1704
MEDIAN
CONSOLIDATOR BUILD AN APPROPRIATE RETURN VALUE

FIG. 17

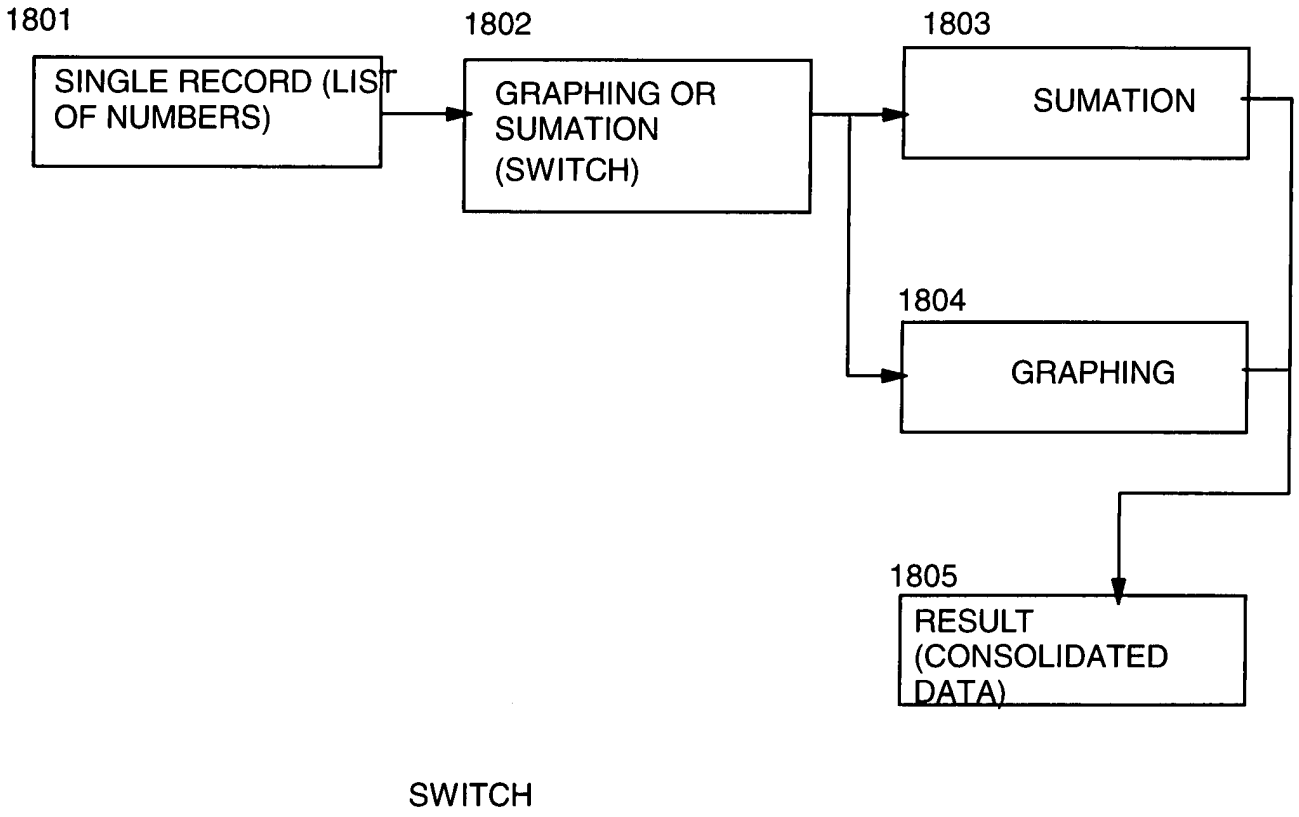

1801
SINGLE RECORD (LIST OF NUMBERS)
1802
GRAPHING OR SUMATION (SWITCH)
1803
SUMATION
1804
GRAPHING
1805
RESULT (CONSOLIDATED DATA)
SWITCH

FIG. 18